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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
09/273,865	03/22/99	HASFJORD	L DDC0365PLUS

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EXAMINER

TONG, N

ART UNIT	PAPER NUMBER
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2736

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DATE MAILED: 06/07/00

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.
09/273,865

Applicant(s)
Hasfjord

Examiner
Nina Tong

Group Art Unit
2736



☒ Responsive to communication(s) filed on Mar 22, 1999

☐ This action is FINAL.

☐ Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle*, 35 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire 3 month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

Disposition of Claim

☒ Claim(s) 1-20 is/are pending in the application

Of the above, claim(s) _____ is/are withdrawn from consideration

☐ Claim(s) _____ is/are allowed.

☒ Claim(s) 1-20 is/are rejected.

☐ Claim(s) _____ is/are objected to.

☐ Claims _____ are subject to restriction or election requirement.

Application Papers

☒ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☐ The drawing(s) filed on _____ is/are objected to by the Examiner.

☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.

☐ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

☐ All ☐ Some* ☒ None of the CERTIFIED copies of the priority documents have been

☐ received.

☐ received in Application No. (Series Code/Serial Number) _____

☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____

☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

☒ Notice of References Cited, PTO-892

☒ Information Disclosure Statement(s), PTO-1449, Paper No(s). 2

☐ Interview Summary, PTO-413

☒ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Notice of Informal Patent Application, PTO-152

--- SEE OFFICE ACTION ON THE FOLLOWING PAGES ---

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DETAILED ACTION

Claim Rejections - 35 U.S.C. § 112

1. Claim 20 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 20, it is unclear as to if claim 20 is an independent claim or dependent claim.

Claim Rejections - 35 U.S.C. § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1,2 are rejected under 35 U.S.C. 102(b) as being anticipated by Betts, Jr. et al. (5,205,261).

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Regarding claims 1,2, Betts, Jr. et al. discloses an air restriction derate for internal combustion engine of a vehicle, which comprises sensing means for sensing the level of clogging of the air filter upon the current filter inlet and filter outlet pressures and responsively produce a clogging level signal; then to compare the clogging level signal with a preselected threshold in accordance to the engine and for providing a warning signal (fig.2 and col.4 lines 15-32, 45-50).

Claim Rejections - 35 U.S.C. § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 3,4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Betts, Jr. et al. (5,205,261).

Regarding claim 3, Betts Jr. et al. fails to specify the claimed threshold is a first value when the engine rpm is less than a predetermined value, and otherwise, the threshold is a second value. However, the threshold value of Betts Jr. et al. is accordance to the engine. It would have been obvious to one of ordinary skill in the art at the time the invention was made to vary the

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threshold value upon the load of the engine as claimed in Betts Jr. et al. for providing a more accurate sensing system.

Regarding claim 4, Betts Jr. et al. fails to specify the claimed air filter restriction real-time fault condition is determined in response to the air inlet depression falling below the threshold more than one time during a predetermined timer interval. However, it is well-known in the art to provide an output signal only when at least two sensed signals are being sensed within a preset time for avoiding any false alarm. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have the system of Betts Jr. et al. to provide a warning signal only when the clogging signal is being sensed at least two times in a preset time for avoiding the false alarm.

6. Claims 5,6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Balzer (3,611,337).

Regarding claims 5,6, Balzer discloses a filter condition indicator system, which comprises means for sensing the fluid filter (such as, air filter, fuel filter, oil filter) conditions of a vehicle and then for providing a warning signal.

Balzer fails to specify the claimed threshold. However, Balzer employs the mechanical switch to activate the warning signal when the differential pressure becomes abnormal. It would have been obvious to one of ordinary skill in the art at the time the invention was made to

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employs the pressure sensor to sense the pressure at the filter and then a computer or controller to determine the abnormal differential pressure at the filter by comparing with a threshold instead of employing the mechanical switch in Balzer for performing the same function and for providing a more accurate sensing system and for providing detail information of the pressure in the filter.

7. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hart et al. (5,020,362).

Regarding claim 5, Hart et al. discloses a fuel injection system tester, which comprises a fuel filter, pressure sensor, vacuum and pressure sensor for running a couple tests of the fuel injection system of the car and for indicating the condition of the fuel injection system.

Hart et al. fails to specify the engine controller. However, it would have been obvious to one of ordinary skill in the art at the time the invention was made to employ the engine controller that employs the microprocessor as the controller of Hart et al. for performing the same function as desired and for less cost, save spaces in the car.

8. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mouton (5,477,731).

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Regarding claim 6, Mouton discloses a method and apparatus for detecting a fouled fluid filter, which comprises means for sensing any clogging of the filter upon the differential pressure across the filter by comparing with a threshold and then for providing a warning signal.

Mouton fails to specify the claimed engine controller. However, it would have been obvious to one of ordinary skill in the art at the time the invention was made to employ the engine controller that employs the microprocessor in Mouton for performing the same function as desired and for less cost, save spaces.

9. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bowman (5,298,881).

Regarding claim 7, Bowman discloses a low liquid level monitoring system which providing a warning signal when the low oil level is sensed by comparing with a threshold.

Bowman fails to specify the claimed engine controller. However, it would have been obvious to one of ordinary skill in the art at the time the invention was made to employ the engine controller that employs the microprocessor in Bowman for performing the same function as desired and for less cost, save spaces.

10. Claims 8-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bowman (5,298,881) in view of Niemczyk et al. (5,282,386).

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Regarding claims 8,9, Niemczyk et al. teaches the concept that it is well-known in the art that the oil level sensing system only enabled when the vehicle is stopped, or engine is in idling state. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have the oil level sensing system to be enabled only when the engine is not running and has not been running for a preset time in Bowman as taught by Niemczyk et al. for improving the system by providing a more accurate sensing system. This is because when the engine is running and when the engine is just being turned off, it is very difficult to sense the oil level accurately.

11. Claims 10,11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Trobert (4,136,329).

Regarding claims 10,11, Trobert discloses an engine condition-responsive shutdown and warning apparatus, which comprises a coolant level sensor for providing a warning signal or request an engine shut down when the low coolant level is being sensed by comparing with a threshold.

Trobert fails to specify the claimed control logic at the engine controller. However, it would have been obvious to one of ordinary skill in the art at the time the invention was made to employ the well-known microprocessor or controller as the engine controller for controlling and

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determining all the sensing signals and engine and warning system in Trobert for providing a more accurate sensing system.

12. Claims 12-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Harazoe et al. (4,034,335).

Regarding claims 12-20, Harazoe et al. discloses an automatic safety and alarming apparatus for construction equipments, which comprises various sensors, such as clogging detectors for air filter, oil filter and fuel filter, oil level, coolant level, and a warning/displaying system.

Harazoe et al. fails to specify the claimed engine controller with memory and the claimed threshold.

However, it would have been obvious to one of ordinary skill in the art at the time the invention was made to employ the well-known microprocessor or controller as the engine controller for controlling and determining all the sensing signals and engine and warning system in Harazoe et al. for providing a more accurate sensing system. Also, as long as all sensing system provide the fault conditions, employing any well-known sensing system for performing the same sensing functions would not constitute an inventive step but an obvious design choice. It would have been obvious to one of ordinary skill in the art at the time the invention was made to employ any well-known sensing system as claimed in the sensors system of Harazoe et al. in the above

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combination for performing the same function as desired and for providing a more accurate sensing system.

Harazoe et al. fails to specify the claimed periodic maintenance fault condition, test switch and reset switch.

However, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide any well-known test switch to test the light indicator and any well-known reset switch for resetting the sensing system in the above combination for ensuring the sensing system is function properly. Also, it would have been obvious to one of ordinary skill in the art at the time the invention was made to employ the sensing system of Harazoe et al. in the well-known periodic maintenance fault condition system for performing the same function as desired.

Conclusion

13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Weisman, II et al. (5,896,083 & 5,477,827) and Letang et al. disclosed a system to control engine with the DDEC III controller.

Fick et al., Habelmann et al., Benda disclosed the oil level sensing system.

Schricker disclosed an apparatus and method for detecting a plugged air filter on an engine.

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14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nina Tong whose telephone number is (703) 305-4831. The examiner can normally be reached on Mon. to Thurs. from 8:30a.m. to 6:00p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jeffery Hofsass, can be reached on (703) 305-4717.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-8576.

15. **Any response to this action should be mailed to :**

Commissioner of Patents and Trademarks
Washington, D.C. 20231

or faxed to:

(703)308-9051, (for formal communication intended for entry)

Or:

(703)308-6743 (for informal or draft communications, please label
"UNOFFICIAL" OR "INFORMAL" OR "PROPOSED" or "DRAFT")

Hand-delivered responses should be brought to Crystal Park II, 2021 Crystal Drive,
Arlington, VA., Sixth Floor (Receptionist).

Nina Tong
June 4, 2000


Nina Tong
Primary Examiner